INFLUENZA
—A COMPARISON

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NEW YORK.

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WATER has always been the therapeutic stepchild of medicine, being bandied about since the time Hippocrates first recognized its merits in "De Aqua et Locis." Medical history demonstrates, as clear as day, that the rise and fall of hydrotherapy was always contemporaneous with the rise and fall of intelligence among medical men. Hippocrates was without doubt a brilliant medical mind, for his axiom that Nature cures is to-day the foundation of the best therapy. Of all the remedial agents in vogue in his day, water appears to be the only one that has survived the vicissitudes of changing doctrines. Indeed, during my own career of fifty years the most active remedies have come and gone out of vogue, but water appeared firmly entrenched until the coal-tar antipyretics competed with it as a temperature-reducing agent in the latter decades of the last century. That this rivalry was destined to result in the defeat of water would have been ascertained earlier had medical men borne in mind that Hippocrates wrote, many centuries ago, "cold water warms, warm water cools." If you take away with

*A lecture at the Walter Reed General Hospital, Washington, D. C.

you this afternoon no other thought than this true apothegm, I shall be content. "Write it upon the doorpost of thine house and upon thy gate," says the good book about the Ten Commandments. And I say to you that the constant remembrance of this absolutely true dictum of the Father of Medicine will prevent your falling into the pitfalls that have misled and are to-day misleading the ablest men of all countries. Following the teaching of Hippocrates, which has been confirmed by experience, when I am asked for a temperature-reducing bath I advise a tubbing of half an hour or more in water at 100° F. and not a bath of 60° F. For I have not forgotten that physiology teaches that whenever the organism is attacked by cold it immediately sets in motion the heat regulating functions to compensate for the loss. Bear this fact in mind, if you please, and you will never injure your patients nor produce shock or collapse. When by reason of this fatal teaching of the Germans cold baths had fallen into deserved desuetude as an antipyretic, they were rescued for a time from entire abandonment by Ernest Brand, a physician of Stettin, who during the Franco-Prussian war treated typhoid fever among the French prisoners of war with cold baths so successfully that Glénard, a professor of medicine in Lyons, who was among these prisoners and assisted Brand in treating his fellows, introduced it in France after the war. Here it became established, especially in Lyons, while in Germany it was discontinued probably because Brand was not a professor in a university. It would appear that the same junker spirit that has brought ruin to Germany hampered the advancement of this life-saving measure, for Curshman, whose clinic in Leipzig I visited in 1902, treated his typhoids with baths at 85° F.

with a mortality of 15 per cent. despite the fact that Brand's statistics gave 3 per cent. mortality in a large number of cases. The statistics of this therapy are the most instructive and reliable in medicine. Of 120,000 cases gathered under regular treatment of all kinds, 20 per cent. died, while of 7,426 cases treated with strict Brand baths only 4.24 per cent. died. Loomis of New York stated that the mortality of typhoid fever in New York City hospitals was reduced 50 per cent. by this treatment. And W. Gilman Thompson stated in his textbook (1902) that in the Presbyterian and other hospitals typhoid mortality had been reduced from 15 to 6 per cent. by the strict Brand bath—70° F. with good friction every three hours when the rectal temperature was above 102.5°. Just as after Hippocrates and Celsus the water treatment went into desuetude, so is it neglected at the present time, for in the very hospitals in which it had been most successful it is now "more honored in the breach than in the observance." Some day I shall try to present the difference in mortality since the abandonment of the regular bath treatment. Here you observe clearly a fault of *omission.*

That we are guilty of a fault of *commission* at the present time when the disregard of the maxim of Hippocrates destroys life, I shall demonstrate to you beyond cavil from undeniable records. In 1895 there was an epidemic of sunstroke in New York City which destroyed 648 lives. It appears from the statistics of Alexander Lambert that 25 out of every hundred of these could have been saved by due regard of the teaching of Hippocrates that cold water warms and warm water cools. For in the St. Vincent's Hospital, under the late Dr. O'Dwyer, the mortality was 6 per cent. in 197

cases of hyperpyrexia treated with cold affusions of tap water, sometimes iced, while in Bellevue Hospital, where the patients were treated with iced baths, the mortality was 33 per cent. And yet nearly every textbook advises to-day that in sunstroke the first indication is to reduce the temperature and the best remedy is very cold baths.

Far be it from me to cite these sad historical facts in a spirit of criticism. My aim is to "learn from the faults of yesterday the wisdom of to-day." The fault lies with those who have not learned the lessons of the history of medicine. It may be claimed and granted in the first instance (Brand method) that it is the right and privilege of physicians to accept or not the statements of Brand and others who may be regarded by them as enthusiasts in hydrotherapy. But it is not the right and privilege of any humane physician to continue the ice bath or similar homicidal practice in sunstroke when the facts have been published by men who are not advocates of hydrotherapy and are known to be fair clinicians. For twenty years people have been dying from sunstroke because of *excessive* use of cold water. I sometimes wonder if the mortality from influenza may not be partly accounted for *by the neglect of water.*

A comparison between water and drug treatment in this disease, which has brought more sorrow and death into households than any other visitation of modern times, may serve to save lives. The fatality of this scourge has perhaps been larger than it should have been in view of our knowledge of the fact that the disease manifests itself as a toxemia, the chief force of which is exerted upon the vasomotor system, as indicated by the uniformly slow and compressible pulse, etc. Let us see whether or not the treatment in vogue is justified. I quote

verbatim from a report with the caption "Therapeutics of Influenza," in one of the most reliable medical journals. "Influenza was treated largely symptomatically. Acetylsalicylic acid 15 grains every three hours until symptomatic relief is secured." Another journal reports: "In severe cases the fever and other evidences of profound intoxication call for the salicylates, one of the synthetic antipyretics, or quinine!" From an able article in the latter journal I quote, "Sudden death in the epidemic of influenza has resembled in some respects an overwhelming toxemia affecting the vasomotor system." These ideas are reiterated in all the literature at my command and in communications with army and navy surgeons and other colleagues. Do they not reecho the slogan of other days, when *typhoid fever was also treated "symptomatically,"* to the detriment of the patient?

The unanimity of this therapeusis in typhoid fever and the fatality which led to its abandonment emboldens me to sound this note of warning: May not history be repeating itself? I trust that the error of the present coal-tar drugging of influenza may be revealed more quickly than was that of typhoid fever and lead to its abandonment.

"Warm packs may give relief, although in the ——— Hospital hydrotherapeutic methods failed and were discarded." Note, if you please, first the indefiniteness of this prescription of warm packs. I have taken the precaution, before appearing here, to ask one of your nurses what she regarded as "a warm pack." She replied: a woolen cloth wrung out of water as warm as the patient could bear. Now imagine the patient writhing under a temperature from 100° to 106° F. when this "hydrotherapeutic procedure" was applied. Would it re-

duce his fever? Would it help his handicapped heart? Certainly not, for we know that the warm moisture would prove to be a poultice that would relax the cutaneous vessels and render the skin wrinkled and cyanotic, and thus add to cardiac asthenia. Shall other "therapeutic methods be discarded because an improper one failed? A similar illogical course has, unfortunately, caused the discarding of the cold friction bath in typhoid fever. I ask you to read my "Don'ts" in Hare's "Practice of Medicine," which point out the proper method of changing the bath when unfavorable manifestations appear from too low temperatures, etc.

"When pneumonia develops," goes on this therapeutic lesson, "every effort must be made to provide for an adequate supply of intake of fluids, and nourishment must be given in fluid form to a large extent." At another place it is stated: "In the cases of secondary pneumonia, many of which resulted fatally, the chief conditions to be combated are the severe toxemia and the vasomotor depression. The toxemia may be combated by the usual methods—getting fluids into the system by proctoclysis and hypodermoclysis, securing elimination with large doses of salts, calomel, venesection, oxygen, etc." "With any indications of the failing heart stimulants are indicated." How these latter remedies remind us again of the discarded practice of our forefathers in typhoid fever! I leave you to judge, also, if your physiological knowledge will sanction this waterlogging of the system and this overburdening of the already handicapped heart with the elimination of all this fluid.

Now let us see how the *judicious* application of water in this toxemia would operate, so that you may in future pandemics of this infectious disease

bear it in mind and thus save life and relieve suffering. Water below the temperature of the skin is a thermic irritant. That its therapeutic action is rationally explained on this theory is evident in its application to the stillborn infant, which, as you and I have been taught, and have successfully practised, must be sprinkled with cold water; if not effective, it must be dipped in cold water, or, if necessary, be alternately immersed in cold and hot water. The result is, as the merest tyro in medical practice knows, the conveyance of the excitation of the sensory terminals in the skin to the central nervous system and its reflection upon the respiration and circulation.

Now, this is a lesson in hydrotherapy, an epitome of the whole subject, in that it not only offers a practical demonstration of the theory but also of dosage and of clinical proof. The small dose of cold water in sprinkling being insufficient, we were instructed in our student days to apply a larger one —the dip of the entire body, or a still larger "dose" in the contrast dipping, which raises the sensitiveness of the skin nerves and vessels by warmth, so that the subsequent cold may act more intensely. Now, if we were to apply this method in the toxemia of typhoid fever, or in opium poisoning, "the dose" would be far too small to arouse the nerve centers. Between these extremes, however, there are, happily, mild measures, each acting in proportion to the contrast between the skin temperature and that of the water, the area of skin treated, frequency of repetition, etc.

I would apply this "dosage" and did apply it in a few consultation cases (two in this hospital) in accordance with the conditions to be met—not, however, as a symptomatic remedy as the drugs above

referred to were applied, but as a refreshing procedure by which the toxemic condition would be counteracted if not neutralized, as I and others have observed a thousand times in typhoid fever and other toxemias. The disease being of short duration, unlike typhoid, I advised friction baths of 90° Fahr. reduced during ten minutes to 80° Fahr. and repeated every four hours in some cases when the patient was not sleeping naturally. The patient was placed upon a small rocking-chair on which a blanket and old sheet had been spread, was drawn backward to the bath room, and replaced after the bath, which had been given with friction. The bath was followed when cautiously rising by an affusion of a basin of water at 75° Fahr. over the shoulders. He was returned to bed. If the temperature was over 102.5° rectal, he remained in the sheet and blanket till dry, otherwise he was quickly dried and placed on the other side of the bed. So soon as he was warm a compress of two folds of a linen towel without fringes, of a size to cover the anterior part of the body was wrung out of water at 60° Fahr., a flannel binder was slipped under him, the wet compress snugly applied and secured with the flannel band. The sheets were kept dry with towels beneath and above the binder. This compress was renewed every hour, when its edge felt warm. The result was renewed stimulation and consequent refreshment when the compress was applied and some antithermic action by evaporation of water through the flannel, all of which meet imperative indications in which the coal tar drugs not only fail but accentuate. In two cases the compress alone sufficed.

You now have the comparison in technic and effects between the drug and the water treatment.

I grant that the former demands less care, but it is depreciating and handicaps the patient, while the wet compress begun early enhances his resisting capacity. This should be the main object of therapy in infectious diseases.

Millet, the great painter, was asked how he mixed his paints to produce such wonderful coloring. He replied, "with brains." This applies to the application of water in disease. In fact, no remedial agent is worthy of our confidence unless it meets three conditions: (1) that it must be readily obtainable; (2) that its rationale must be physiological; (3) that clinical proofs of its value are accessible. Water fulfills all these conditions—at least as well as most drugs. Why, then, is it not in common use after its exploitation by the most brilliant men for twenty-three centuries? Among other reasons is the lack of instruction in our schools and the fear of shock. There are two conditions greatly misunderstood in hydrotherapy, *shock* and *reaction*. The so-called *shock* from cold water is an unpleasant surprise to the cutaneous nerves, which is taken cognizance of by the brain. *Reaction* is usually regarded as requiring a reddening of the skin. The latter is really not necessary, so long as the patient does not feel chilly fifteen minutes after the treatment.

It was my intent to demonstrate the wet pack this afternoon. This procedure had been filmed here by the Surgeon General's Instruction Laboratory. By courtesy of Commander Edward Old of the Hospital Ship *Solace* it was put on the screen on his ship, after which I had the honor of explaining its value as a hypnotic. A few days ago Dr. Old wrote me as follows: "During the recent epidemic of influenza a number of the pneumonia cases were

delirious and very restless, having to be restrained, these symptoms being beyond control by the use of drugs. Some of the men would remain awake day and night, the whole time in marked delirium, and the condition was one such as at times tries the nerves of physicians and attendants. Remembering the film which you showed us and your discourse on the benefit of the wet pack in controlling insomnia, we tried the treatment so strongly advocated by you, on the above class of cases, and I know that you will be pleased to hear that in nearly every case it was found most successful and of marked benefit to the patient."

This is surely a demonstration by the Surgeon General's Instruction Laboratory in saving life and comfort.*

In chronic and subacute cases in which appetite and digestion need to be enhanced, the addition of neurovascular training induces more rapid improvement. In domestic practice the patient may be seated in an empty tub with the outlet closed or in rural dwellings in a washtub with feet outside. Water dipped from a bucket with a basin is poured from the latter over the shoulders and chest and back, its temperature beginning with 90° Fahr. and reduced daily one or more degrees so long as reaction is good, until 60° Fahr. is reached. Then larger quantities are used, beginning with 80°

*Since the lecture was delivered, one of the staff of the Hospital had Lieutenant Danzer apply it in a case of pneumonia with good effect.

I was asked by a colleague who had on my advice observed the fine result of an hourly anterior compress at 60° F., if 85°, which he had applied in another case of influenza, would suffice, while the patient becomes inured to the shock. "Seeing is believing" did not appear true in this instance; the fear of shock prevailed.

Fahr. and lowering daily, unless reaction be poor, when the same temperature is continued but only half the number of basins. After drying, the patient is sent out doors. In institutions like this great hospital the skin is warmed in a hot-air bath. This is followed by a fan douche at 90° Fahr. for two or more minutes, which is reduced daily as above. The patient is sent into the fresh air after treatment. This is termed neurovascular training because the nerves and vessels of the skin are inured to lower temperature and increased duration as are the arm muscles in dumbbell exercises. The results comprehensively termed "tonic" will aid powerfully in the reconstruction efforts of this great hospital, when added to other measures now in vogue.

If I have succeeded in impressing upon you the importance and simplicity of hydrotherapy by the comparison of the proven effects of drugs and water in disease and if I have induced you thereby to study and practice the application of water in disease, I shall regard the hours I am spending in this great hospital as profitable.

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